

ABSTRACT

A forwarding table periodically receives updates, and when the forwarding table receives a new entry in such an update, a set of entries having a valid prefix of the new entry is spanned by a correcting window. The correcting window has a correcting window size equal to the bit-length of the valid prefix. A set of target entries is identified in the correcting window such that each of the target entries in the set has a hierarchy pointer value less than the correcting window size. The entry includes a routing tag, and the routing tag is added to the routing tag field in the set of target entries. Additionally, the correcting window size is added to the hierarchy pointer field in the same set of target entries. The forwarding table can also replace prefixes that are removed in a similar manner with a replacement entry has a replacement hierarchical pointer value less than the replacement correcting window size.

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